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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,017	09/12/2003	Paul E. McKenney	BEA920030005US1	6787

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EXAMINER	
OKORONKWO, CHINWENDU C	
ART UNIT	**PAPER NUMBER**
2136	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/661,017	MCKENNEY, PAUL E.	
	Examiner	Art Unit	
	Chinwendu C. Okoronkwo	2136	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Pursuant to USC 131, claims 1-20 are presented for examination.

2. Claims 1-20 are pending.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 20 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter - the claimed subject matter not being tangible. The claimed modulated carrier signal does not define any structural and functional interrelationship between the modulated carrier signal and other claimed element(s) of a computer, which permit the modulated carrier signal's functionality to be realized. Such descriptive material does not exhibit any functional interrelationship with the way in which computing processes are performed and is not described as being recorded onto some tangible medium, thus it does not constitute statutory matter

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

The term "approach" in claims 1-10 is a relative term which renders the claim indefinite. The term "approach" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The Examiner has assumed that the Applicant intended to recite a "method using software" and a "method using hardware" in place of the "software approach" and "hardware approach" used within the claims. This assumption definition was used in applying the reference of record.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-20 are rejected under 35 U.S.C. 102(b) as being disclosed by Paya et al. (U.S. Patent No. 6,993,663).

Regarding claim 1, Paya et al., discloses a method comprising:

- utilizing a software approach to locking memory to execute a code section relating to memory and employing a pseudo-transaction to determine whether a hardware approach to transactional memory to execute the threshold would have been successful (col. lines 11-57); and
- where the hardware approach to transactional memory to execute the code section satisfies a threshold based on success of at least the pseudo-transaction, subsequently utilizing the hardware approach to transactional memory to execute the code section (col. lines 11-57).

Regarding claim 2, Paya et al., discloses the method of claim 1, wherein utilizing the software approach to locking memory to execute the code section comprises:

- placing a lock on the memory to which the code section relates (col. lines 11-57);
- executing the code section (col. lines 11-57);
- committing execution of the code section to the memory as the code section is executed (col. lines 11-57); and
- removing the lock on the memory to which the code section relates (col. lines 11-57).

Regarding claim 3, Paya et al., discloses the method of claim 1, wherein the hardware approach to transactional memory satisfies the threshold also based on success of previous transactions employed by the hardware approach to

transactional memory to execute the code section (col. lines 11-57).

Regarding claim 4, Paya et al., discloses the method of claim 1, wherein the hardware approach to transactional memory satisfies the threshold also based on success of previous pseudo-transactions (col. lines 11-57).

Regarding claim 5, Paya et al., discloses the method of claim 1, wherein the hardware approach to transactional memory satisfies the threshold where the hardware approach to transactional memory would have successfully executed the code section a single time (col. lines 11-57).

Regarding claim 6, Paya et al., discloses the method of claim 1, wherein the hardware approach to transactional memory satisfies the threshold where the hardware approach to transactional memory would have successfully executed the code section a predetermined plurality of times (col. lines 11-57).

Regarding claim 7, Paya et al., discloses the method of claim 1, wherein the hardware approach to transactional memory satisfying the threshold comprises utilizing a digital filter as the threshold in determining whether to utilize the hardware approach to transactional memory to execute the code section (col. lines 11-57).

Regarding claim 8, Paya et al., discloses the method of claim 1, wherein the hardware approach to transactional memory satisfying the threshold comprises utilizing information passed from a compiler to determine whether to utilize the hardware approach to transactional memory to execute the code section (col. lines 11-57).

Regarding claim 9, Paya et al., discloses the method of claim 1, wherein the hardware approach to transactional memory satisfying the threshold comprises tracking a success rate of the hardware approach to transactional memory in executing the code section to determine whether to utilize the hardware approach to transactional memory to execute the code section (col. lines 11-57).

Regarding claim 10, Paya et al., discloses the method of claim 1, wherein utilizing the hardware approach to transactional memory to execute the code section comprises:

- starting a transaction inclusive of the code section (col. lines 11-57);
- conditionally executing the transaction (col. lines 11-57); and
- upon successfully completing the transaction, committing execution of the transaction to the memory to which the code section relates (col. lines 11-57).

Regarding claim 11, Paya et al., discloses the system comprising: a processor having transactional memory capability, including a pseudo-transactional memory capability that determines whether the transactional memory capability would have been successful; and a memory storing a spin lock function to execute a code section by utilizing the transactional memory capability upon the transactional memory capability having satisfied a threshold based upon success of at least the pseudo-transactional memory capability (col. lines 11-57).

Regarding claim 12, Paya et al., discloses the system of claim 11, further comprising a plurality of nodes interconnected to one another, one of the plurality of nodes inclusive of the processor and the memory (col. lines 11-57).

Regarding claim 13, Paya et al., discloses the system of claim 11, wherein the memory further stores the code section, the code section programmed to call the spin lock function to execute, the spin lock function locking a portion of the memory to which the code section relates (col. lines 11-57).

Regarding claim 14, Paya et al., discloses the system of claim 13, wherein the memory further stores a spin unlock function that the code section calls to unlock the portion of the memory to which the code section relates (col. lines 11-57).

Regarding claim 15, Paya et al., discloses the system of claim 13, wherein the spin lock function initially utilizes the transactional memory capability in locking the portion of the memory to which the code section relates, falls back to a software approach to locking memory upon the transactional memory capability failing the threshold in executing the code section, and
resumes utilizing the transactional memory capability upon the transactional memory capability again satisfying the threshold based upon success of at least the pseudo-transactional memory capability (col. lines 11-57).

Regarding claim 16, Paya et al., discloses the system of claim 11, wherein the transactional memory capability satisfies the threshold also based upon previous success of the transactional memory capability in executing the code section (col. lines 11-57).

Regarding claim 17, Paya et al., discloses the article of manufacture comprising: a computer-readable medium and means in the medium for utilizing a hardware approach to transactional memory to execute a code section after having utilized a software approach to locking memory to execute the code section and the hardware approach to transactional memory having satisfied a threshold based at least upon a pseudo-transaction to determine whether the hardware approach would have succeeded in executing the code section (Rejected under the same rationale as claim 1).

Regarding claim 18, Paya et al., discloses the article of claim 17, wherein the means utilizes the hardware approach to transactional memory where the hardware approach to transactional memory would have successfully executed the code section a predetermined one or more times (Rejected under the same rationale as claim 6).

Regarding claim 19, Paya et al., discloses the article of claim 17, wherein the hardware approach satisfies the threshold also based on previous transactions utilized by the hardware approach to execute the code section and on previous pseudo-transactions (Rejected under the same rationale as claim 4).

Regarding claim 20, Paya et al., discloses the article of claim 17, wherein the computer-readable medium is one of a recordable data storage medium and a modulated carrier signal (col. 7 lines 1-31).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chinwendu C. Okoronkwo whose telephone number is (571) 272 2662. The examiner can normally be reached on MWF 9:30 - 7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nasser Moazzami can be reached on (571) 272 4195. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CCO

January 22, 2007

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1/22/07